

A NEW SPECIES OF DENDROBIUM FROM CAPE YORK PENINSULA AND NEW GUINEA

By P. S. Lavarack

Queensland National Parks and Wildlife Service, Townsville.

and

P. J. Cribb

Royal Botanic Gardens, Kew

Summary

Dendrobium carronii Lavarack et Cribb is described. The differences between this and the related *D. canaliculatum* R. Br. are discussed. The relationships of these two species are considered resulting in the placing of both in the section *Ceratobium*. A key to the Australian species of this section is presented.

Dendrobium carronii Lavarack et Cribb sp. nov. affine *D. canaliculato* R. Br., habitu simile sed floribus majoribus distincte coloratis sepalis albis petalis brunneis longioribus labello luteo lobo medio fere oblongo lobis lateralibus patentibus carinatis apice non elevatis satis distinguendum.

Herba epiphytica; pseudobulbis 1.5-5 × 1-3 cm aggregatis brevibus interdum subglobosis medio inflatis purpureis. Foliis apicalibus plerumque 2 sed usque 4 usque 12 × 0.5 cm fere teretibus carnosus dorso longitudinaliter sulcatis. Inflorescentiis 1-3 usque 20 cm longis e nodis apicalibus exortis 2-12-floris; rhachido purpureo; bracteis 2 mm longis ovatis acuminatis. Floribus patentibus; pedicello cum ovario 2 cm longo; ovario minute papilloso sub angulo 90° e pedicello exorto. Sepalis 0.5 × 0.3 cm triangularibus acuminatis albis. Petalis 1.8-2 × 0.2-0.3 cm oblanceolatis acutis semel tortis atrobrunneis vel atropurpureis ad basin albis et in centro laminae longitudinaliter fuscatis. Labello 1-1.4 × 0.7-0.8 cm prominenter trilobato luteo; lobo medio oblongo acuto; labis lateralibus rotundatis erectis vel patentibus; callo leniter tricarinato usque ad lobum medium vix attingente. Columna 0.2 × 0.3 cm apice denticulata; stelidibus 2 brevibus; pede 0.5 cm longo; mento retrorso colummae ± parallelo; anthera apice papillosa basi haud profunde emarginata. **Typus.** Cook District: Cape York Peninsula, 5 km south of Jacky Jacky Creek 11°00'S 142°28'E, P. Lavarack 2573 (BRI, holotypus).

An epiphytic herb. Pseudobulbs purple, clustered, short and swollen about the middle, often almost globose, 1.5-5 × 1-3 cm. Leaves usually 2 but up to 4, at the apex of the stem, fleshy, almost terete, with a groove on the upper surface, up to 12 × 0.5 cm. Inflorescences suberect, one to 3 per pseudobulb, from the apical nodes, rachis purple, up to 20 cm long, 2-12 flowers. Bracts ovate, acuminate, 2 mm long. Pedicel and ovary purple about 2 cm long; ovary borne at about 90° to the pedicel, minutely papillose. Sepals white, triangular, apiculate, 0.5 × 0.3 cm. Petals dark brown to purple with a white base and a darker stripe running the length of the petal, oblanceolate, acute, twisted once, 1.8-2 × 0.2-0.3 cm. Lip prominently 3-lobed, 1-1.4 × 0.7-0.8 cm; mid-lobe oblong acute, sidelobes erect to spreading, rounded; callus of 3 poorly developed ridges scarcely reaching the midlobe. Column 0.3 × 0.2 cm., denticulate on the apical margin with 2 small erect apical teeth; foot 0.5 cm long, mentum pointing backwards more or less parallel to the column. Anther papillose in front, shallowly notched at the base (Fig. 40)

Distribution. Eastern Cape York Peninsula from Cape York south to about Coen and in the Central District of Papua New Guinea (Dodd 1976). An epiphyte of the moister coastal and mountainous areas of the east coast of Cape York Peninsula from sea level to about 500 m. Usually growing on paper

barked species of *Melaleuca* in mixed open forests, but also on *Xanthostemon crenulatus* and *Tristania suaveolens* in swamp forests.

In 1976 Dodd described a plant from Hula as being "a distinctive variety" (i.e. from the known varieties of *D. canaliculatum*). This plant, as described by Dodd, agrees perfectly with *D. carronii*.

Queensland: COOK DISTRICT: Cape York Peninsula: 5 km south of Jacky Jacky Creek, 20 Aug 73, *P. Lavarack* 2573; Lankelly Creek 06 Aug 78, *J. Clarkson* 2467 (+ Spirit!); Tozers Gap, Cult. Townsville 20 Sep 80, *P. Lavarack* 3063 (Spirit!); 3064 (Spirit!); 3065 (Spirit!); 3066 (Spirit!); 3086 (Spirit!); Jardine River, Cult. Townsville 20 Sep 80, *P. Lavarack* 3082 (Spirit!) **Papua New Guinea:** Hyla, Central District, Nov 1973, *J. Dodd* U.W.A. 2983.

This species is closely related to *D. canaliculatum* R. Br. and indeed the two species are difficult to separate when not in flower. *D. carronii* is usually more purple in its vegetative parts than *D. canaliculatum*. The major difference lie in the flowers. These differences are shown in the table given below:

	<i>D. carronii</i>	<i>D. canaliculatum</i>
Sepals	triangular, half as long as petals, not twisted, apiculate	linear, as long as petals, twisted, acute
Lip	yellow, midlobe oblong, straight	white with purple markings, midlobe ovate to almost circular
Callus on lip	low, scarcely reaching midlobe	about 1 mm high, reaching to near the apex of midlobe
Mentum	approximately parallel to column	at an obtuse angle to column
Point of attachment of lip	about halfway between base of column and end of mentum	near end of column foot
Column	purple with white anther	yellow

D. carronii has been named in honour of William Carron (1823–76), botanist to the ill-fated Kennedy expedition of 1848, who passed through the area where this species grows and may well have been the first to collect it. Carron was one of the three survivors of this expedition, but his specimens were not recovered by the rescue party.

The inclusion of *D. canaliculatum* and *D. carronii* in sect. *Ceratobium*.

Sect. *Eleutheroglossum* was established by Schlechter (1907) to include three new Caledonian species of *Dendrobium*: *D. eleutheroglossum* Schltr., *D. ngoyense* Schltr. and *D. poissonianum* Schltr. Later, he also included *D. canaliculatum* R. Br., an Australian and New Guinean species, in the section and subsequent authors such as Dockrill (1969) have followed his treatment. Schlechter (1912) discussed briefly the affinities of this section and commented that it possessed characteristics linking it with, on the one hand, sect. *Phalaenanthe* and, on the other, with sect. *Ceratobium*. Kranzlin's treatment of *Dendrobium* (1910) is so aberrant that it can safely be ignored in this case.

Whilst agreeing with Schlechter's comments on sect. *Eleutheroglossum* we are inclined to disagree with his inclusion of *D. canaliculatum* in the section.

Not only is it geographically isolated, but its flowers are quite typical of those of sect. *Ceratobium*. In the New Caledonian species of sect. *Eleutheroglossum* the mentum is elongate and distinctively incurved, the petals are shorter than or only as long as, the dorsal sepal and the lip is emarginate at the apex and bears but two longitudinal calli or a papillate cushion (see Halle', 1977). *D. canaliculatum*, in common with species of sect. *Ceratobium*, has a shorter mentum, petals which are twisted and mostly longer than the dorsal sepal and an obtuse to acute lip bearing three or five longitudinal calli. Its flowers closely resemble those of *D. percnanthum* Rchb. f. which has always been considered a species in sect. *Ceratobium*. Cytological evidence obtained by Wilfret *et al.* (1979) and Kamemoto & Wilfret (1980) from studies of the meiotic behaviour of inter- and intrasectional hybrids of *Dendrobium* confirms the view that *D. canaliculatum* is very closely allied to species of sect. *Ceratobium*. *C. canaliculatum* is aberrant, however, in having a short fusiform pseudobulb and subterete fleshy leaves but even these conditions are approached in some species of sect. *Ceratobium*. Overall it seems more consistent to remove *D. canaliculatum* from sect. *Eleutheroglossum* (which is retained for the three New Caledonian species only) and place it in sect. *Ceratobium*. Likewise the new species described here, *D. carronii*, is also attributable to the latter section.

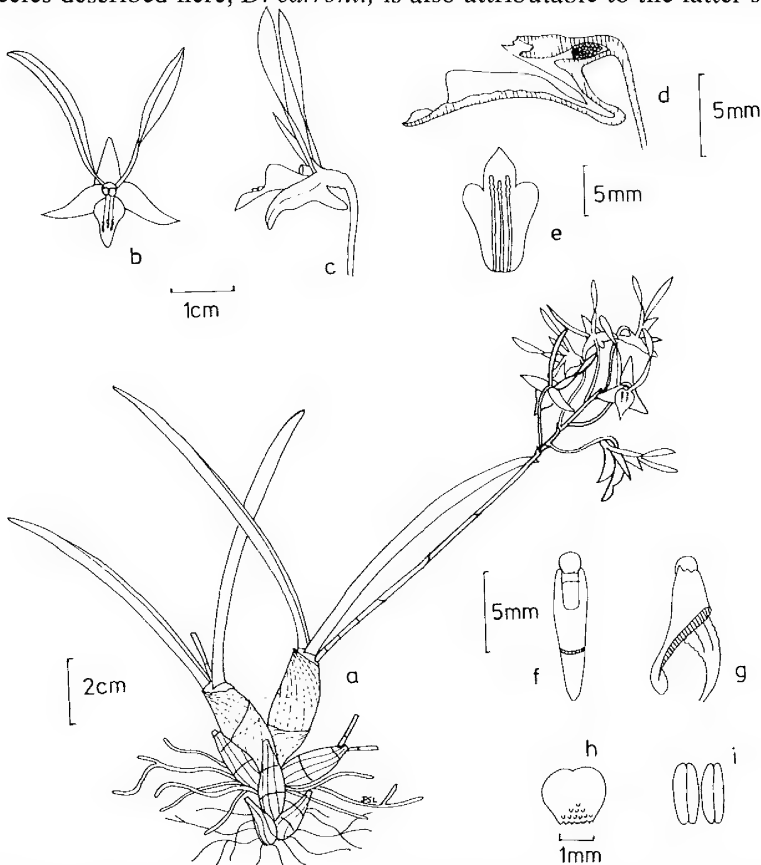


Figure 40. *Dendrobium carronii* a. plant b. flower from front c. flower from side d. longitudinal section of column and labellum e. labellum from above (flattened) f. column from front g. column from side h. anther from above. i. pollinia.

Key to the Australian species of *Dendrobium* sect. *Ceratobium*.

Leaves fleshy, almost terete with a groove on the upper surface:

Mentum pointing backwards \pm parallel to the column; callus on lip of three poorly developed ridges; mid lobe oblong, straight; sepals white, petals purple or dark brown; lip yellow *D. carronii*

Mentum at an angle of *c.* 90° to the column; callus ridges on mid-lobe *c.* 1 mm high; mid-lobe ovate to almost circular, somewhat recurved; sepals and petals yellow or brown-tipped; lip white, marked with purple *D. canaliculatum*

Leaves flat, coriaceous or subcoriaceous, never terete:

Inflorescence with sheathing bracts; pedicel emerging from a few mm above the bract axil; flowers white with green petals and marked with violet or purple on the lip . *D. antennatum*

Inflorescence with ovate or lanceolate spreading bracts; pedicels emerging from the axils of the bracts; flowers mostly yellow, brown or purple:

Petals and sepals undulate and crispate on margins often markedly so; bracts often 1 cm or more long *D. discolor*
(syn. *D. undulatum*)

Petals and sepals with smooth entire margins; bracts mostly less than 5 mm long:

Flowers predominantly purple or lilac; lip mid-lobe transversely elliptic truncate; mentum mostly more than 1 cm long *D. nindii*
(syn. *D. toffii*)

Flowers yellow, brown or ochre, \pm marked with purple veins on the lip; lip mid-lobe ovate to broadly ovate, acute or obtuse; mentum less than 9 mm long:

Lip mid-lobe ovate or narrowly ovate, acute, purple-veined with undulate margins; callus of 5 continuous undulate ridges; side lobes with rugulose venation; flowers mostly self-pollinating; leaves oblong-elliptic, obtuse *D. wilkianum*.*

Lip mid-lobe broadly ovate, obtuse, with flat margins; callus of 3–5 ridges rather discontinuous and raised on mid-lobe; side lobes lacking rugulose venation; flowers cross-pollinating; leaves linear or linear-lanceolate, acute to sub-acute:

Mentum pointing backwards in flower; lip elliptic in outline; mid-lobe narrower than side lobes when spread; petals dark purple to brown *D. johannis*

Mentum straight, not noticeably curved backwards; lip oblong in outline; mid-lobe as broad as side lobes when spread; petals ochre-yellow \pm veined purple *D. semifusum*

**D. wilkianum* is closely allied to *D. mirbelianum* from New Guinea with which it may prove on further study to be conspecific.

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